

WHAT IS CLAIMED:

1. A prophylactic system for a dental hand piece of a selected shape and having an outlet for providing a fluid to an operating field comprising:

5 a cover having a shape substantially similar to a shape of said hand piece for enclosing said dental hand piece and having an aperture for communicating with said operating field; and

10 an S-shaped valve including a path for coupling said fluid from said outlet of said hand piece to said aperture of said cover.

2. The prophylactic system of Claim 1 wherein said fluid comprises water.

15 3. The prophylactic system of Claim 1 wherein said fluid comprises air.

4. The prophylactic system of Claim 1 wherein said path includes a wide, thin section in a region of said S-shaped valve where the S-shape substantially reverses slope.

20 5. The prophylactic system of Claim 1 and further comprising a second cover for enclosing said cover.

6. The prophylactic system of Claim 5 wherein sidewalls of said second cover are spaced from sidewalls of said cover by a plurality of protrusions.

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7. The prophylactic system of Claim 6 wherein said protrusions are impregnated with an anti-biological contaminant agent.

8. A prophylactic system for use with a dental hand piece including a dental bur and air and water outlets comprising:

5 an inner cover including a first aperture for receiving said bur and a second aperture for passing water and air output from said outlets of said hand piece;

10 an S-shaped valve including first and second paths for coupling air and water from said outlets of said hand piece to said second aperture of said inner cover, at least one of said paths including a wide, thin section in a region of said valve where said S-shape substantially changes slope; and

15 an outer cover for enclosing said inner cover and said hand piece and including a first aperture for receiving said bur and a second aperture for communicating air and water output from said aperture of said inner cover to an oral operating field, said outer cover including a plurality of protrusions disposed along an inner sidewall of said outer cover for contacting an outer surface of said inner cover.

9. The prophylactic system of Claim 8 wherein said

20 protrusions are formed of compressed cotton.

10. The prophylactic system of Claim 9 wherein said compressed cotton is impregnated with an anti-biological contamination agent.

11. The prophylactic system of Claim 8 and further

25 comprising a filter disposed between air and water outlets of said valve and said second aperture of said inner cover.

12. The prophylactic system of Claim 8 wherein said bur comprises a splash guard having a plurality of fins for propelling debris away from said hand piece during the rotation of said bur.

5 13. The prophylactic system of Claim 8 wherein said inner cover comprises first and second halves and means for engaging said first and second halves for maintaining enclosure of said hand piece.

10 14. The prophylactic system of Claim 13 wherein said means for engaging comprises a friction lock system including a plurality of tabs on said first half of said inner cover and a plurality of corresponding receptacles through said second half of said inner cover.

15 15. The prophylactic system of Claim 13 and further comprising hinge means coupling said first and second halves for allowing said halves to rotate with respect to one another to form an enclosure around said hand piece.

18. A dental system comprising:

a hand piece including a bur and air and water outlets for performing dental operations in an oral operating field;

5 an inner cover having a shape substantially conforming to a shape of said hand piece for enclosing said hand piece and including a first aperture for receiving said bur and a second aperture for passing air and water from said air and water outlets of said hand piece; and

10 an outer cover having a shape substantially conforming to a shape of said inner cover for enclosing said inner cover and including a first aperture for receiving said bur and a second aperture for passing air and water passed from said inner cover to said operating field.

15 19. The dental system of Claim 18 and further comprising an S-shaped valve coupling said air and water outlets of said hand piece with said second aperture of said inner cover.

20 20. The dental system of Claim 18 wherein an inner sidewall of said outer cover is spaced from an outer sidewall of said inner cover by a series of protrusions extending from said inner sidewall of said outer cover.

21. The dental system of Claim 20 wherein said protrusions are impregnated with amoxicillin.

22. The dental system of Claim 18 wherein said hand piece comprises a high-speed air driven hand piece.

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23. The dental system of Claim 18 wherein said hand piece comprises a low-speed air driven hand piece.

5. 24. The dental system of Claim 18 wherein said hand piece comprises a single plastic filament for receiving light from an associated light source and coupling said light to a light outlet on said hand piece.

10 25. The dental system of Claim 18 and further comprises a filter for filtering at least one the air and water being provided to said hand piece from an external source.

26. The dental system of Claim 25 wherein said filter is disposed internal to said hand piece.

27. The dental system of Claim 25 wherein said filter is disposed external to said hand piece.

28. A method of protecting a dental hand piece from exposure to potentially hazardous materials during a dental procedure comprising the steps of:

5 enclosing the hand piece with an inner cover having a shape substantially conforming to a shape of the hand piece, the inner cover having a first aperture for receiving a bur coupled to the hand piece and a second aperture for passing a fluid provided by an outlet on the hand piece; and

10 enclosing the inner cover with an outer cover, the outer cover including a first aperture for receiving the bur and a second aperture for passing the fluid output from the second aperture of the inner cover to a dental operating field.

15 29. The method of claim 28 and further comprising the step of placing a material impregnated with an anti-biological contaminate agent between the inner and outer covers.

20 30. The method of Claim 28 and further comprising the step of preventing backwash of potentially contaminated materials from reaching the output of the hand piece through the second aperture of the inner cover with a valve.

31. The method of Claim 30 wherein said valve comprises an S-shaped body.

32. The method of Claim 31 and further comprising the step of passing the fluid through a path enclosed by the S-shaped body including a narrow relatively high section and a wide relatively thin section.
- 5 33. The method of Claim 38 wherein the inner and outer covers are disposable.

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23

34. A bur assembly for use with a dental hand piece comprising:

a dental bur; and

5 means for propelling liquids and debris away from said hand piece during rotation of said bur.

35. The bur assembly of Claim 34 wherein said splash guard couples to said dental bur by snapping into a V-shaped notch formed in said bur.

10 36. The bur assembly of Claim 34 wherein said means for propelling comprises a plurality of fins.